

HEPATITIS

Last Updated January 2004

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Definition: Hepatitis A (HAV) is a disease of the liver caused by Hepatitis A. The onset is usually abrupt with fever, malaise, anorexia, nausea and abdominal discomfort. Children are more likely to have minimal if any symptoms. When symptoms do occur they generally last one to two weeks, although adults can feel sick for several months. Complete recovery without sequela or reoccurrence is the rule.

Hepatitis A virus is found primarily in the stool and is commonly transmitted via the fecal-oral route by contaminated hands, food or water. Unlike certain other hepatitis viruses, HAV is found only briefly in the blood. Saliva may have minimal amounts of the virus and urine has none. Symptoms may appear 2 – 8 weeks following ingestion of the virus. The peak period of viral shedding in the stool and highest risk of spread, is the two-week period prior to the onset of symptoms. A person is usually no longer contagious one week after symptoms appear.

Hepatitis A is diagnosed by blood test IGM anti-HAV. Tests for abnormal liver functioning measure the amount of liver damage rather than the specific cause of disease.

There is no specific treatment for hepatitis A, however, rare complications such as extreme drowsiness, fluid retention, or blood abnormalities can be treated. The most important way to prevent hepatitis A is to use good personal hygiene, particularly careful hand washing and sanitary disposal of feces. An infected person may be restricted from work during the period of infectiousness (usually for one week after onset of jaundice). Persons who have been exposed to hepatitis A should be immunized with immune serum globulin (ISG). ISG works even when given as late as two weeks after a person has been exposed because the disease usually takes four weeks to appear.

Role of the School Nurse: Students with Hepatitis A should be excluded from school for 10 days after the appearance of first symptoms or for 7 days after onset of jaundice. School staff and students should practice careful hand washing. The need for IG for close contacts will be determined by the BOH and physician.

Hepatitis A is a reportable disease.

FACT SHEET ON HEPITITIS A FROM CDC:

SIGNS & SYMPTOMS	Adults will have signs and symptoms more often than children.	
	• jaundice • fatigue • abdominal pain • loss of appetite	• nausea • diarrhea • fever
CAUSE	• Hepatitis A virus (HAV)	
LONG-TERM EFFECTS	• There is no chronic (long-term) infection. • Once you have had hepatitis A you cannot get it again. • About 15% of people infected with HAV will have prolonged or relapsing symptoms over a 6-9 month period.	
TRANSMISSION	• HAV is found in the stool (feces) of persons with hepatitis A. • HAV is usually spread from person to person by putting something in the mouth (even though it may look clean) that has been contaminated with the stool of a person with hepatitis A.	
PERSONS AT RISK OF INFECTION	• Household contacts of infected persons • Sex contacts of infected persons • Persons, especially children, living in areas with increased rates of hepatitis A during the baseline period from 1987-1997. (view map) • Persons traveling to countries where hepatitis A is common (view map) • Men who have sex with men • Injecting and non-injecting drug users	
PREVENTION	• Hepatitis A vaccine is the best protection. • Short-term protection against hepatitis A is available from immune globulin. It can be given before and within 2 weeks after coming in contact with HAV. • Always wash your hands with soap and water after using the bathroom, changing a diaper, and before preparing and eating food.	
VACCINE RECOMMENDATION	Vaccine is recommended for the following persons 2 years of age and older: • Travelers to areas with increased rates of hepatitis A (view map) • Men who have sex with men • Injecting and non-injecting drug	

SIGNS & SYMPTOMS	Adults will have signs and symptoms more often than children.	
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CAUSE	<ul style="list-style-type: none"> • Hepatitis A virus (HAV) 	
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PERSONS AT RISK	<ul style="list-style-type: none"> • Household contacts of infected persons • Sex contacts 	

HEPATITIS B

Definition: Hepatitis B (HBV) is a viral infection that causes swelling of the liver.

The incubation period for hepatitis B ranges from 45-180 days, and onset is insidious. Clinical illness associated with acute infection is age-dependent with jaundice occurring in under 10% of children 5 years of age and under and in 30%-50% of older children and adults. The case-fatality rate for reported acute cases in the United States is approximately 0.5%-1% although most result in complete recovery. Approximately 30%-90% of young children and 2%-10% of adults who are infected with HBV develop chronic infection and most of the serious sequelae associated with HBV occur in these persons.

Symptoms of HBV include feelings of weakness and vague illness, loss of appetite, fever, and headaches. Less common symptoms include muscle pain, darkened urine, jaundice, nausea, abdominal discomfort, rash, depression, and irritability. Symptoms can begin as soon as six weeks or as long as six months after infection with HBV.

HBV is spread through infected blood (including dried blood), semen, saliva, and vaginal fluids. It can also be transmitted from mother to child during delivery. Sharing items such as toothbrushes and razors, (because of possible blood contact) with infected people

can also spread infection.

Most people (about 90 percent) who acquire hepatitis B recover within six months of their first symptoms. Some others, however, become chronic hepatitis B carriers and can develop chronic liver disease, which can lead to cancer or cirrhosis of the liver. Carriers can also put their sexual partners, families, and housemates at risk of infection.

Currently there is no specific treatment for hepatitis B.

The best way to prevent hepatitis B is to avoid contact with the blood of infected people. Because not all persons who are infectious with hepatitis B may have symptoms or even be aware of their infection, contact with blood and body fluids from all persons should be minimized. (See Bloodborne Pathogen section.)

A vaccine for hepatitis B, given in three separate doses is encouraged and routinely given to infants and children and catch-up vaccine is given to adolescents. People exposed to hepatitis B are given hepatitis B Immune Globulin, or HBIG, as well as vaccine.

Role of School Nurse: There is no exclusion from school for students with Hepatitis B. Hep B vaccine is encouraged for students. Good hand washing technique should be practiced after any contact with another person's body fluids and universal precautions practiced. Hepatitis B is a reportable disease.

HEPITITIS B FACT SHEET FROM CDC:

Fact Sheet

([print friendly PDF version](#))

SIGNS & SYMPTOMS	Adults will have signs and symptoms more often than children.	
	• jaundice • fatigue • abdominal pain • loss of appetite	• nausea • diarrhea • fever
CAUSE	• Hepatitis A virus (HAV)	
LONG-TERM EFFECTS	• There is no chronic (long-term) infection. • Once you have had hepatitis A you cannot get it again. • About 15% of people infected with HAV will have prolonged or relapsing symptoms over a 6-9 month period.	
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PERSONS AT RISK OF INFECTION	• Household contacts of infected persons • Sex contacts of infected persons • Persons, especially children, living in areas with increased rates of hepatitis A during the baseline period from 1987-1997. (view map) • Persons traveling to countries where hepatitis A is common (view map) • Men who have sex with men • Injecting and non-injecting drug users	
PREVENTION	• Hepatitis A vaccine is the best protection. • Short-term protection against hepatitis A is available from immune globulin. It can be given before and within 2 weeks after coming in contact with HAV. • Always wash your hands with soap and water after using the bathroom, changing a diaper, and before preparing and eating food.	
VACCINE RECOMMENDATION	Vaccine is recommended for the following persons 2 years of age and older: • Travelers to areas with increased rates of hepatitis A (view map) • Men who	

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VACCINE RECOMMENDATIONS	<p>Vaccine is recommended for the following persons 2 years of age and older:</p> <ul style="list-style-type: none"> • Travelers to areas with increased rates of hepatitis A (view map) • Men who have sex with men • Injecting and non-injecting drug users • Persons with clotting-factor disorders (e.g. hemophilia) • Persons with chronic liver disease • Children living in areas with increased rates of hepatitis A during the baseline period from 1987-1997. (view map) 	

<ul style="list-style-type: none"> • AASLD Practice Guidelines • PubMed Article on Adefovir dipivoxil treatment (e antigen-positive) • PubMed Article on Adefovir dipivoxil treatment (e antigen-negative) 	<p>treatment of persons with chronic hepatitis B. • Pregnant women should not use these drugs. • Drinking alcohol can make your liver disease worse.</p>
<p>TRENDS & STATISTICS</p>	<ul style="list-style-type: none"> • Number of new infections per year has declined from an average of 260,000 in the 1980s to about 78,000 in 2001. • Highest rate of disease occurs in 20-49-year-olds. • Greatest decline has happened among children and adolescents due to routine hepatitis B vaccination. • Estimated 1.25 million chronically infected Americans, of whom 20-30% acquired their infection in childhood.
	<p>interferon and ribavirin, is currently the treatment of choice.</p>

HEPATITIS C

Definition: Hepatitis C is a liver disease caused by Hepatitis C virus (HCV). Transmission occurs from percutaneous exposure to contaminated blood or plasma derivatives. Possible methods of transmission include contaminated needles and syringes, occupational exposure and sexual exposure although the risk is considered low. Transmission occurred through transfusions and transplants before screening of HCV. Its onset is insidious, with anorexia, vague abdominal discomfort, nausea and vomiting, progressing to jaundice less frequently than Hepatitis B. Diagnosis depends on demonstration of antibody to hepatitis C virus (anti-HCV). Incubation period ranges from 2 weeks to 6 months, usually 6 – 9 weeks. Communicability is from 1 or more weeks before onset of first symptoms and may persist indefinitely. Sixty to seventy percent develop chronic hepatitis.

Role of the School Nurse: There is no exclusion from school for students with Hepatitis C. There is no vaccine available. Good hand washing technique should be practiced after any contact with another person's body fluids and universal precautions practiced. Hepatitis C is a reportable disease.

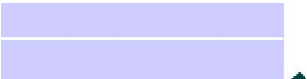
HEPATITIS C FACT SHEET FROM CDC:

SIGNS & SYMPTOMS	80% of persons have no signs or symptoms.																									
	<ul style="list-style-type: none"> jaundice fatigue dark urine 	<ul style="list-style-type: none"> abdominal pain loss of appetite nausea 																								
CAUSE	<ul style="list-style-type: none"> Hepatitis C virus (HCV) 																									
LONG-TERM EFFECTS	<ul style="list-style-type: none"> Chronic infection: 75-85% of infected persons Chronic liver disease: 70% of chronically infected persons Deaths from chronic liver disease: <3% Leading indication for liver transplant 																									
TRANSMISSION Recommendations for testing based on risk for HCV infection	<ul style="list-style-type: none"> Occurs when blood or body fluids from an infected person enters the body of a person who is not infected. HCV is spread through sharing needles or "works" when "shooting" drugs, through needlesticks or sharps exposures on the job, or from an infected mother to her baby during birth. <p>Persons at risk for HCV infection might also be at risk for infection with hepatitis B virus (HBV) or HIV.</p> <p>Recommendations for Testing Based on Risk for HCV Infection</p> <table border="1"> <thead> <tr> <th>PERSONS</th><th>RISK OF INFECTION</th><th>TESTING RECOMMENDED?</th></tr> </thead> <tbody> <tr> <td>Injecting drug users</td><td>High</td><td>Yes</td></tr> <tr> <td>Recipients of clotting factors made before 1987</td><td>High</td><td>Yes</td></tr> <tr> <td>Hemodialysis patients</td><td>Intermediate</td><td>Yes</td></tr> <tr> <td>Recipients of blood and/or solid organs before 1992</td><td>Intermediate</td><td>Yes</td></tr> <tr> <td>People with undiagnosed liver problems</td><td>Intermediate</td><td>Yes</td></tr> <tr> <td>Infants born to infected mothers</td><td>Intermediate</td><td>After 12-18 mos. old</td></tr> <tr> <td>Healthcare/public safety workers</td><td>Low</td><td>Only after known exposure</td></tr> </tbody> </table>		PERSONS	RISK OF INFECTION	TESTING RECOMMENDED?	Injecting drug users	High	Yes	Recipients of clotting factors made before 1987	High	Yes	Hemodialysis patients	Intermediate	Yes	Recipients of blood and/or solid organs before 1992	Intermediate	Yes	People with undiagnosed liver problems	Intermediate	Yes	Infants born to infected mothers	Intermediate	After 12-18 mos. old	Healthcare/public safety workers	Low	Only after known exposure
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People having sex with an infected steady partner	Low	No*					
PREVENTION	<ul style="list-style-type: none">. You should also get vaccinated against hepatitis B.If you are HCV positive, do not donate blood, organs, or tissue.						
TREATMENT & MEDICAL MANAGEMENT National Institutes of Health fact sheet on treatment	<ul style="list-style-type: none">HCV positive persons should be evaluated by their doctor for liver disease.Interferon and ribavirin are two drugs licensed for the treatment of persons with chronic hepatitis C.Interferon can be taken alone or in combination with ribavirin. Combination therapy, using pegylated						

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* The efficacy of latex condoms in preven



Resources: Information for this section came from: Control of Communicable Diseases Manual, American Public Health Association.

The Merck Manual, Seventeenth Edition, Merck Resource Laboratories, 1999.

CDC Web <http://www.cdc.gov/ncidod/diseases/hepatitis/>

Other Resources: Contact the Maine Bureau of Health for further recommendations. (1-800-821-5821)

Red Book:2003 Report of Committee of Infectious Diseases, 26th Edition, American Academy of Pediatrics.

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